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Be

*Southern
California's
largest grower
of tuberous
begonias
tells you
how to grow
them
successfully!*

HOW TO GROW TUBEROUS BEGONIAS



PALOS VERDES BEGONIA FARM

WALTERIA, CALIFORNIA

• near Redondo Beach

INSTRUCTIONS

Always buy the best stock available for you will not get choice plants or blooms from inferior tubers or seedlings.

The principal erect types of double tuberous rooted begonias in a variety of colors are (1) Camellia, (2) Fimbriata Plena or carnation, (3) Camellia Picotee, (4) Rosebud, and (5) Ruffled.

Lloydii Hybrids or hanging basket types have the hanging habit and therefore are most suited to be grown in baskets, on walls or shelves so that one can look into the beautiful, full clusters of blooms. Your garden is not complete without them.

TUBERS

To flower early, tubers should be laid out in empty trays or flats around the first or second week in February—keep them warm and moisten occasionally until the tubers start to sprout. It is better to keep them on the dry side rather than too wet.

When the tubers have sprouted, place in flats of moist leafmold or a mixture of leafmold and peat until the sprouts are three or four inches high. Give them plenty of room for root growth. The sprouted tubers are then ready to be transplanted for the season into pots, boxes, baskets, or in the ground. The best flowers and growth develop from one shoot so it is in order to remove other shoots. (Except hanging basket types.) To do so, use a razor blade, cutting close to the tuber. Plant the cutting in sand and you will duplicate the parent plant. It will bloom and form a tuber the first year, if done early in the season.

PREPARATION FOR PLANTING

When planting in pots, use eight-inch pots or larger for tubers an inch and a half or larger in size. Five to seven-inch pots are sufficiently large for three-quarter inch tubers or less. Since tuberous begonias are shallow rooted we suggest unglazed fern pans or unpainted redwood boxes as ideal. Glazed pots and painted boxes do not permit evaporation to keep roots cool and therefore are not as satisfactory.

When planting in the ground, partial shade, good drainage, loose soil and a quiet location are essential—begonias do not thrive where it is windy. A moist atmosphere is essential for the best growth along with a temperature of around 70° F.

HOW TO PLANT

The first requirement when using pots or boxes is to provide good drainage. Place a

little gravel or broken pieces of pottery over drainage holes to prevent clogging. Then use a soil mixture of one-half leafmold and one-half sandy loam. A small amount of well-rotted manure thoroughly mixed with the above is good. Begonias like an acid soil so guard against alkalinity. A small amount of peat moss will help.

Fill the pot or box to a depth of three or four inches from the top. Fertilize at this point with a tablespoonful of fishmeal or cotton seed meal—mix with the soil to a depth of one or two inches—cover with a small amount of leafmold—then plant tuber so that the top or crown of the tuber is level with the soil and about an inch down from the rim of the pot or box. It is preferable to have the tuber higher so that the water drains away from the crown. The tuber should not be covered. When planting in the ground, follow the same procedure as in pots.

CARE OF PLANTS

Mulch the surface with a little peat or leafmold—do not cultivate close to the plants—keep soil moist and fertilize every two months by digging in a tablespoonful of fishmeal around the outer edge of the pot—especially good for hanging baskets. Successful results are also obtained by using an application of liquid fish fertilizer once a month. Stake plants if required, using redwood or bamboo stakes. Sprinkle leaves occasionally with a fine spray and water well at the base of the stalk. Do not make the ground soggy.

Pots set into the ground at least half way for the home garden are better than ground planting. Other plant roots do not rob the begonia roots of valuable fertilizer. You can control moisture much better and in the fall when they are through blooming, the plant can be removed, pot and all, to a place for maturing or drying off. Do not cut or break off the tops—permit them to dry up.

CARE OF TUBERS

When your begonias are through blooming in October or November permit them to mature or dry up. It is easily accomplished when begonias are planted in pots or boxes. When the foliage starts to turn yellow and blooming ceases, turn the pots on their side in the garage or any sheltered place until spring—do not remove the tuber from the soil—for a gradual drying off is necessary. A very important precaution is to avoid cutting or breaking off the top, for the strength of the season's growth returns to the tuber as it matures in the fall. In

late fall or spring one may remove the tuber, brush off old soil and dead roots. Guard against brushing tubers and place them in flats covering with peat or leafmold to prevent shrinkage. All parts of the old stem should be removed at this time to prevent decay.

DISEASES AND PESTS

Tuberous begonias have very few diseases or pests, especially outside. With very little care your flowers and leaf growth should be perfect.

ROT. A bruised tuber or stalk might start to decay. Expose bruised parts to sunlight, dust with bordeaux, charcoal, paris green or sulphur. A tuber may also decay if it is kept too moist or if stalk is broken off at the tuber.

EATING INSECTS. The Cyclamen mite attacks the veins on the under side of the leaves and stems, causing leaves to curl, veins to turn brown and plant to stunt. Isolate from others and spray with a light oil as Volk, or any other spray suitable for mite control. The plant may not bloom satisfactorily that season but you can save the tuber for the next year. To prevent, keep leaves and soil moist, and spray occasionally with a weak solution of garden volk.

APHIS, WORMS AND LARVAE from butterflies are best controlled by spraying with chlordane or malathion.

SNAILS, SLUGS AND SOWBUGS are controlled by the use of poisons used for that purpose.

SPOTTED MILDEW

Caused by prolonged periods of overcast weather and lack of air circulation; can be controlled by the use of Cuper Dust #8, a dust; or Thane, a wettable powder. Koppersol or Ortho garden fungicide with capton have also proven excellent control. Either method must be used regularly over a week or ten days until changes in weather conditions prevents its spreads.

OTHER PRECAUTIONS

Too much water and shade causes spindly plants and poor blooms.

Too much water and hot, dry weather causes buds to fall off.

Too much fertilizer causes leaves to curl under and plant to wilt. The main point is not to overdo. Treat them as you do other plants.

If you do not have a suitable place to grow begonias our suggestion is to build a small, ornamental lath house. You will also find it excellent for other plants.

Come to see us and we will be pleased to help you. Your success is our success.



PLANTING

INSTRUCTIONS

FOREWORD

The Centinela Chapter of the California Association of Nurserymen have merged their professional knowledge to formulate these planting instructions.

This folder will help you obtain successful plants and avoid transplanting failures and future disappointments.

Since no two gardens are alike, this folder covers only general rules of gardening. Consult us about your individual problems. We are eager to share our training and experience with you to help make your gardening easier and more pleasant.



PALOS VERDES BEGONIA FARM

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Walteria, California

Phone Frontier 7147

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HOUSE PLANTS

Because the soil blend differs with each kind of house plant, your nurseryman should plant them for you.

By experience nurserymen have found that plant fatalities are caused by one or several of these conditions.

1. Drought—Give plant frequent attention, if allowed to wilt often, it will suffer greatly.

2. Drowning—Pour off all excess water that is apt to accumulate if no drainage hole is provided. Size of container, number and age of plants determines how often to water. For small plants, once a week is usually sufficient. Water every 12 to 20 days is enough for larger containers.

3. Darkness—Plants prefer window-locations as growth is stimulated by light. However, certain plants thrive under artificial lighting. Consult your nurseryman on light requirements for plants.

4. Stomach Ache—Caused by too much fertilizer. Weak applications of fertilizer are sufficient where there is no drainage. Pots with drainage will consume nutrients much faster. Consult your nurseryman for correct amount and type of fertilizer.

5. Sudden Eviction Notice—Do not move a healthy plant outdoors for sunshine or rain. This is a shock to the plant. If set in a cold draft indoors, plant will gradually die.

6. Insects—Check plant often for signs of insects. Your nurseryman will advise on how to kill insects, do not attempt this without expert advice.

BEDDING PLANTS

Set plants out as soon as possible after purchasing. Do not let them dry out. If you cannot plant immediately, place in the shade and give them a light watering.

Dig hole large enough to accommodate all the roots.

After carefully cutting each plant from group, plant it carefully at the same depth that it was growing.

Water plants more than once with a slow stream of water to puddle them thoroughly.

Mulch bed with a half-inch of well ground manure. This will prevent soil crust and maintain moisture. In case of hot sun or drying wind, the young plants might wilt. Provide temporary protection by tree trimmings, lumber, burlap, or other devices, as an emergency measure.

Your nurseryman will gladly advise you on the growing requirements of the plants until maturity.

CAMELLIA, GARDENIA, AND AZALEA CULTURE

Location: Camellias are semi-shade loving plants; therefore, they do best on a north or east exposure. They need protection from hot noon-day sun and wind.

Planting and Soil: Camellias like well-drained soil, slightly acid and with cool moist conditions. In light soils, hole should be at least 24x24x24 inches. In heavy soils size of hole should be deepened with a post hole auger two to four feet. The deeper hole as well as the bottom of the original hole should be filled with coarse gravel to aid drainage. Camellias may be planted in raised beds to provide better surface drainage. Soil mixture should be $\frac{1}{3}$ sandy loam, $\frac{1}{3}$ well rotted Oak leafmold, and $\frac{1}{3}$ moistened peat moss. Start filling hole with mixture and firmly tamp. Place root ball so top will be at least two inches above surrounding soil level. Never fill higher than soil level at which plant was growing in container. One or two inches mulch of peat will complete planting. Never cultivate surface as feeder roots may be exposed or broken.

Camellias may be grown in containers, so that they may

be moved to any location. Use same soil mixture as above. Place two inches of pea gravel in bottom of container for drainage, making sure drain holes never become plugged. Camellias should never be dry nor overly wet. Sprinkling foliage during hot summer and fall months is beneficial. Open flowers should not be watered.

Azaleas: Culture is similar to camellias except 90% moistened peat and 10% coarse sand should be used when planting.

Gardenias: Use same soil mixture and drainage precautions as for camellias. Gardenias may be planted in full sun.

Camellias, Gardenias, and Azaleas require specialized feeding and pest control. By consulting your nurseryman, these plants can be beautiful the year round.

ROSE CULTURE

The planting and care of bush, tree, climbing or pillar type roses.

Planting: Ground should be turned at least 18-24" in depth and well-rotted steer manure, bone meal, and peat moss should be incorporated in the soil several weeks before planting. If soil is not prepared beforehand, do not put manure in hole but place on top of basin one month after planting. If roses are bareroot (Dec. to Feb. only) plant as soon as possible and never expose roots to sun or wind. Hole should be large enough to enable roots to spread out naturally. Place a cone of earth in center of hole and place rose on top of cone with bud union slightly above original ground level; fill in soil and tamp around roots to firm soil. Make basin around plant and fill with water. Water slowly in order to settle soil. Roses like plenty of water, soak once a week during spring and fall months and more often during summer months. Sandy soils will require more water than heavy soils. Container grown roses should be planted as soon as removed from container and placed at the same soil level and soil preparation as bare-root roses.

Fertilizing: After roses are established they should be fertilized every six weeks with an application of $\frac{1}{4}$ or $\frac{1}{2}$ cup of a balanced plant food or prepared commercial rose fertilizer. Amount of plant food depends on size of bush. It is important that each application of fertilizer be followed by plenty of water. A heavy mulch of manure should be applied each winter. During growing season, roses should not be cultivated deeply as this may injure the feeder roots.

Pruning: All dead wood and faded flowers should be removed. Never allow seed pods to form. During dormant season, December to February, cut back and shape plants by removing all small or worn out canes. Climbing or pillar roses should only have old canes removed as new canes are produced. The new canes produce flowers the following season. Belle of Portugal and Paul's Scarlet climbers are pruned following blooming period in the spring. Do not prune in dormant season. See your nurseryman for proper fungus and insect control.

DECIDUOUS FRUIT TREES

During dormant period, deciduous fruit trees will have no earth about their roots. At no time should roots be allowed to dry. Protect them at all times prior to planting. At other times the trees will be growing in containers. Treat them as described in section titled Ornamental Plants, Trees and Shrubs.

For dormant trees, dig a large roomy hole that will accommodate all roots in their natural position without crowding. Cut off broken or damaged roots that may be observed, and place tree into hole. Be certain tree rests at same depth in hole as when it is filled with soil that it was when growing in nursery rows. At no time should the bud union be covered. The union may easily be noted by a definite crook just above the root system.

Fill hole with good pulverized surface soil, firming it around roots. If soil removed is heavy clay, gumbo, or adobe, mix leaf mold and sand with soil before re-filling. If soil seems excessively sandy, add peat moss to retain moisture.

After filling hole, build a basin around tree and water

immediately, allowing water to fill the basin slowly. Even though soil seems moist enough in appearance, water thoroughly to settle soil firmly about root system. Use no manure or commercial fertilizer at planting time near root system, but manure or peat mulch in basin will keep soil from drying or cracking. A month to six weeks after planting, tree may be fed with a well balanced plant food.

If tree is planted in an exposed or windy location, it may be necessary to build a framework of lattice or burlap to protect young growth. Whitewashing the trunk will aid in preventing sunburn until the leaves form natural protection.

There is a great variation in pest control required by the different species of fruit trees. It is important that you seek professional advice in this matter.

BERRIES

Cane Berries: Boysenberry, blackberry, loganberry and raspberry plants are available in bare-root in January, February and March. Later they are available in containers. Avoid over exposing roots to sun and wind. Water after planting and keep moist until well started. Consult your nurseryman regarding pruning, spraying, and fertilizing.

Strawberries: Strawberries can be purchased bare-root during winter months and later on in pots and flats. Plant and water bare-root plants immediately. Be careful to set strawberry plant so the crown is exposed and above soil surface. If crown becomes covered with earth there is danger of rot. Your nurseryman is eager to suggest various ways in which strawberries may become a useful as well as an ornamental part of the home garden.

ORNAMENTAL PLANTS, TREES, AND SHRUBS

I. Plants grown in containers: In transplanting do not crack or loosen ball of earth. If uncertain how to remove plant from container, your nurseryman will give you explicit instructions.

Dig a hole twice the size of ball of earth. Partially fill and set plant at same level which it was growing in the container. Remaining dirt should be used to form a ridge around the edge of hole to keep water close to roots. Be sure basin is filled with water immediately after planting. After plant is established, the roots are deep enough that the basin may no longer be necessary.

II. Field Grown Ornamentals: Field grown ornamentals are in a ball of earth wrapped in burlap. Carry the plant by lifting ball rather than trunk. Keep in a shady place and sprinkle ball and foliage until planted. Dig hole twice size of ball. Partly fill and place top of ball at ground level. When hole is filled with two-thirds soil, cut string and fold burlap away from trunk. Fill remainder of hole with soil. Make basin by ridging excessive earth around edge of hole. Run water slowly until basin is filled. A one-inch layer of manure, peat, or leafmold around plant will act as insulator against wind and sun. If plant is in or near lawn, the basin may be destroyed after plant starts to grow. Never let soil get dry until plant is deeply rooted.

SUB-TROPICAL FRUITS

Avocadoes, citrus, and other sub-tropical fruit trees dislike water standing in root area. Your nurseryman will advise you on various methods of drainage.

These fruit trees are usually purchased as field grown plants. The earth about the roots is balled and burlaped. Refer to Ornamental Plant section, under title of Field Grown Ornamentals.

Young trees sunburn easily. Protect trunk of tree with burlap, tree-white, or manufactured tree protector. In areas where young trees are exposed to strong ocean wind, they need a trellis or burlap frame. This wind protection will also shade bark against sunburn.

Your nurseryman will advise you on how to speed the growth and fruiting of sub-tropical trees.

BOUGAINVILLEAS AND EUCALYPTUS

These ornamentals are difficult to transplant if roots are disturbed. Have your nurseryman cut cans properly. He will tell you how to handle the plants so roots are not disturbed.

CODE OF ETHICS

"As a Nurseryman I recognize the Golden Rule as being a guide for everyday business life and in applying it, I strive to adhere to the following principles:

1. To practice that fundamental honesty which is the foundation of all worthy endeavors: To be proud of my occupation as a Nurseryman and the opportunity it affords me to serve others.
2. To make no false claims in advertising my products or services.
3. To remember that in building up my own business, it is not necessary to tear down another's. To be loyal to my customers and true to myself.
4. To foster every movement toward a higher standard in the growing and selling of nursery stock, to the end that the consumer will be offered only truly named, first quality material.
5. To deliver only that nursery stock to my customers that conforms to samples or representations made and not to substitute varieties without the consent of the purchaser.
6. To improve and promote social and business friendship and understanding among members."

HOW TO ORDER BY MAIL

when ordering, please specify

COLOR, TYPE and SIZE

	DOZ.
Small Size — $\frac{3}{4}$ "-1 $\frac{1}{4}$ "	\$1.65
Medium Size — 1 $\frac{1}{2}$ "-2"	3.50
Large Size — 2" and up.....	4.50

Packing and Shipping Charges

West, 50c; Middlewest, 65c; East, 75c

**Enclose Check or Money Order - Make Payable
Palos Verdes Begonia Farm**

Type Range

Camellia
Ruffled
Fimbriata (Carnation)
Picotee (Variegated)
Rosebud
Lloydii (Hanging Basket)

Color Range

True Red
Dark Red
American Beauty
Yellow
Salmon and Apricot
Pink
White
Rose Pink
Orange

Tubers are packed in Sawdust
to Prevent Freezing.

Tubers are available December through March

Please Unpack Immediately

Instruction Folder Enclosed

Palos Verdes

BEGONIA FARM

*offers you these
other fine nursery items...*

Fuchsias
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